AMENDMENTS

In the Claims:

Please amend claim 1 and cancel claims 18 and 19 as shown in the Claim Listing.

CLAIM LISTING

- 1. (Currently Amended) A vapor delivery system for dispensing a vaporized material having a controllable heating apparatus comprising:
- a heating element;
- a voltage source coupled to said heating element;
- a variable resistor coupled to said heating element and said voltage source, said variable resistor including a fixed resistive element and a moveable element, said moveable element having a position and adjustably contacting said fixed resistive element at a contact point associated with said position;

said fixed resistive element having a length and comprising a first thin film resistor and a second thin film resistor substantially parallel to said first thin film resistor, said first and second thin film resistors having a width that varies non-linearly over said length

said variable resistor having a resistance that is at least partially non-linearly related to said position;

said heating element having a dissipated power that is at least partially linearly related to said position, said dissipated power at least partially linearly related to a temperature of said heating element.

- 2. (Original) The controllable heating apparatus of claim 1, wherein said heating element comprises a thin-film resistor.
- 3. (Original) The controllable heating apparatus of claim 2, wherein said heating element comprises a thin-film resistor having a serpentine pattern.
- 4. (Original) The controllable heating apparatus of claim 1, wherein said voltage source comprises an AC power source.

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- 5. (Original) The controllable heating apparatus of claim 1, further including a vapor dispensing device thermally coupled to said heating element, said vapor dispensing device configured to release vapor into an environment at a rate that is a function of said dissipated power.
- 6. (Original) The controllable heating apparatus of claim 1, wherein said moveable element comprises a component selected from the group consisting of a slider switch, a dial, a knob, a screw, and a thumbwheel.
- 7. (Original) The controllable heating apparatus of claim 1, wherein said fixed resistive element comprises at least one thin film resistor.
- 8. (Original) The controllable heating apparatus of claim 7, wherein said at least one thin film resistor has a first end, a second end, and an attribute that varies non-linearly between said first end and second end, said attribute selected from the group consisting of width, thickness, material, and sheet resistance.

9. (Canceled)

- 10. (Currently Amended) The controllable heating apparatus of claim 91, wherein said width varies continuously over said length in accordance with a geometric function selected from the group consisting of a square-root function, a logarithmic function, and a polynomial function.
- 11. (Currently Amended) The controllable heating apparatus of claim 91, wherein said width varies in accordance with a period of discrete steps.
- 12. (Currently Amended) The controllable heating apparatus of claim 91, wherein said moveable element has a high position, a low position, and at least one intermediate position between said high and low positions, and wherein said dissipated power at said high, low, and intermediate position define a substantially linear curve.

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13. (Previously Presented) A variable resistor for controlling a heating element in a vapor delivery system for dispensing a vaporized material coupled in series with a voltage source V, the heating element being of the type characterized by a resistance RH and a dissipated power PH = IVH, wherein I is the current through the heating element and VH is the voltage across the heating element, said variable resistor comprising:

a fixed resistive element having a length L;

a moveable element having a position x adjustably contacting said fixed resistive element at a contact point associated with said position x;

said fixed resistive element having a resistance RS(x);

wherein the dissipated power PH is related to RS(x) by the equation:

$$P_{H} = C_{1} \left(\frac{1}{R_{S}^{2} + C_{2}R_{S} + C_{3}} \right)$$
where $C_{1} = V^{2}R_{H}$, $C_{2} = 2R_{H}$, and $C_{3} = R_{H}^{2}$;

said dissipated power linearly related to a temperature of said heating element; and wherein RS(x) is a non-linear function and PH(x) is at least partially linear.

- 14. (Previously Presented) The variable resistor of claim 13, wherein $R_s(x) \propto \sqrt{x/L}$.
- 15. (Previously Presented) The variable resistor of claim 13, wherein said fixed resistive element comprises two substantially parallel thin film resistors having widths w which vary non-linearly as a function of x.

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- 16. (Previously Presented) The variable resistor of claim 13, wherein $w(x) \propto \sqrt{x/L}$
- 17. (Previously Presented) The variable resistor of claim 13, wherein said moveable element has a high position X_{high} , a low position X_{low} , and at least one intermediate position, wherein said dissipated power P_H has a curve which substantially intersects a line defined by $(X_{high}, P_H(X_{high}))$ and $(X_{low}, P_H(X_{low}))$ at three points along said curve.

18-19. (Canceled)